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SMARTPHONE ADOPTION AMONGST UNIVERSITY STUDENTS: EVIDENCE FROM THE UNIVERSITY OF BAMENDA, CAMEROON.

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Abstract

Drawing from the focus groups and semi-structured interviews conducted on students of the University of Bamenda, North West region of Cameroon, this study indicates that mobile phone adoption among University Bamenda students is predominantly influenced by factors such as the need for connectedness, cost and perceived usefulness of mobile phone handsets. Moreover, this study reveals that acquisition of mobile phones among students is an ongoing process, as it involves a young person starting to acquire and use a mobile phone (initial adoption), and then developing a strong link with the device through continuous consumption.

Keywords: *Smart Phone, Influence, Adoption*

1.1 Introduction

Mobile phones have become very popular in recent years and their development has been amazing. There were 4.7 billion unique mobile subscribers on a global scale at the end of 2015. This means that almost 70% of the world's population was communicating through a mobile phone in 2015. [1]. That number is expected to rise again to 5.645 billion by 2020. (Motorola, 2006) In just 5 years, almost three quarters of the entire world population according to the International Telecommunication Union [2] will possess a mobile subscription, with almost 1 billion new subscribers added over this period.

The developing world will fuel most of that growth, accounting for 90% of the 1 billion incremental subscribers expected between 2015 and 2020. It will, however, grow at a lesser rate than the rate at which it has grown over the last five years: the annual growth rate of mobile subscriptions in the developing world will grow at an annual growth rate of 4.5% compared to 9.2% for the 2010-2015 periods. [1]

At the end of 2015, 46% of the population in Africa subscribed to mobile services, equivalent to more than half a billion people. According to a report published by GSMA on Africa's mobile economy, [1] over the next five years, an additional 168 million people will be connected by mobile services across Africa, reaching 725 million unique subscribers by 2020.

Smartphone adoption is higher in the developed world at 65% in 2015 and projected to grow to 76% by 2020. However, the progression in the developing world is faster with an increase of 23 points from 40% in 2015 to 63% in 2020. By 2020, Sub-Saharan Africa should reach a total of 540 million smartphones from 380 million at the end of 2015. [4]

A report published by the Cameroonian Ministry of Posts and Telecommunication (Minpostel) in 2017 showed a significant growth in the country's mobile penetration rate, which rose from around 12% in 2005 to almost 83% in 2016.

According to a French media study published in March 2017, smartphone usage had experienced a marked increase in Cameroon and other African countries in 2016. Quoting from the study, Médiamétrie notes: "in Cameroon, the number of homes with smartphones has increased by 43% to 72.2% just in the second half of 2016". This gives Cameroon one of the highest rates of smartphone use in Africa. Médiamétrie, also measured the performance of so-

cial networks in Cameroon for the first time in 2016. The results show that 68.2% of individuals aged 15 and over are registered on a social network, including 75.3% among those aged 15-24. Facebook is the most popular network followed by Google+, Instagram and Twitter. Though the survey was limited to the four main cities and may not reflect rural usage. Another study suggests that in 2016 Cameroon reached internet penetration rate of 21%, a rise in one year from 11%. [5]

Available data indicated 20 million mobile subscriptions in 2016, the largest beneficiaries being MTN and Orange. As in most African countries, wireline telephone network significantly dropped in Cameroon over lack of investment, extension and maintenance and due to vandalism related to cable theft. Since 2007, the number of fixed analogue telephone lines has remained below the 2006 value (112,715 lines) and is still concentrated in the Central and Littoral regions (more than 7 lines out of 10).

Although the penetration rate of fixed wireless telephony has been constantly increasing since 2005, mainly due to the high propensity to CDMA subscription. Minpostel reported a very low penetration of wireline network which remains in decline over the period (100,331 wireline telephone subscribers in 2005 against 67,678 in 2016).

These results are intriguing but leave open the question as to how the daily life of Cameroonians has been impacted by smartphones and even social media. For example, how do smartphones and social media reframe social interactions among families and groups? Another important question concerns differences in the age-related usage of smartphone and social media in this country of a predominantly young population (45% of people are less than 15 years old).

To fill that gap and to lay a foundation for a larger research agenda about the relationship between mobile technology and education in Cameroon, this study aims to investigate daily mobile device use among University of Bamenda students in terms of time spent on mobile device and factors influencing it.

1.2 Statement of the Problem

The invention of technology such as mobile phones has, no doubt, brought about immense positive progress to human societies, but this invention equally brought in its wake some observed attitudinal prob-

lems among university students with the University of Bamenda in Cameroon not being an exception. However, this is not to say that these problems are solely caused by the usage of these phones as there are other causes, but that the attitudes of the users and the modes of the usages are significantly the contributing factors especially in the 21st century. There is high tendency and/or temptation of the students to interact with their phone in the class in the course of lectures, either to respond to received messages, or to browse the internet. These, no doubt, take heavy toll on the level of concentration devoted to the lectures. Even while outside the class room environment, most students who use internet enabled phones devote much time interacting with their phones by chatting on social media platforms. Consequently, the time that ought to have been devoted to study and other useful academic endeavours are thus frittered away. In the light of this problem and in locating the root cause of the problems posed by the relationship between the students use of internet phones on their academic performance, it is pertinent and imperative to look at the intrinsic motivations for the adoption of mobile phones by students and the behavioral characteristics of their usage.

1.3 Research questions

1. What motivates University of Bamenda students to use mobile phones?
2. What are the behavioral characteristics of their usage?

1.4 Objectives Of study

The overarching aim of this study is to understand mobile phone usage amongst university students and more specifically, the seeks

1. To assess the reasons for purchasing a mobile phone by University of Bamenda Students
2. To identify the factors that influence mobile phone adoption among University of Bamenda students

1.5 Research Setting And Study Area

The University of Bamenda (UBa) is an Anglo-Saxon university in Bamenda, North West region of Cameroon. It was created by Presidential Decree No. 2010/372 of 14 December 2010 and went operational in 2011. Highly professional with programmes aimed at addressing immediate and future national as well as international challenges, UBa today boast of over 17,000 students studying in diverse programmes spread across six Schools and six Faculties.

1.6 Delimitation

This study is limited to the University of Bamenda and the sample population was specifically students on campus using smartphones. Only 30 students of

the over 4000 student population participated in the study. Although the sample is not statistically representative of the student population, a good representation of students from different departments, as well as gender were targeted in the study.

1.7 Significance of the study

The study will contribute valuable learnings about the field of mobile communication to the broader academic knowledge-base. This research may serve as useful input to telecommunication companies and researchers (information science, social communication, etc). This study may help information architects in designing interfaces to meet the unique needs of the particular market.

2.1 Literature review

Issac, Nickerson, and Tarasewich (2004) studied cell phone usage in social settings in two developed countries – United States and France. Their research focused on the cell phones used in social settings, the perception of the acceptable use of mobile phones in social settings. They studied whether the use and attitudes related to the use of cell phones vary by country. Their survey indicated significant differences between users in United States and France when it came to using phones in public streets or while driving an automobile. French users had a significantly negative view of using mobile phones while driving, this may be attributed to the fact that it is illegal in France to drive and talk on a phone simultaneously. [6]

Palen, Salzman and Youngs (2000) have looked into this issue and the perception of mobile phone usage in the public. They studied the behavior of new mobile users over a period of six weeks after acquisition of phones. Using interviews and voice-mail, their study noted that patterns of mobile phone usage varied over time and there was significant deviation between the user-predicted usage to their actual usage. The researchers also studied how the perception of mobile phone usage in public contexts varied over the duration of the study. [7]

Froese, *et al.* (2012) employed a self-report survey to assess students' cell phone activity in classes and their expectations of the effects of such activity on learning outcomes. In October through December, 2009, 693 students at seven colleges and universities across the United States participated in the study. It was found out that cell phones distract students from learning and it confirmed that students expect texting to disrupt their classroom learning. However, having only 6 minute to complete the survey pressure might affect the results derived from their answers. [8]

Tindell and Bohlander (2012) embedded the survey

of 269 college students from a private university in northeastern Pennsylvania to gain understanding of the use and abuse of cell phones in a college classroom setting, and to potentially aid in policy-making decisions. The researchers found that students are spending time texting and are not paying attention to the class lecture. [9]

Elder, in 2013 conducted surveys of eighty-eight (88) undergraduate college students enrolled in Educational Psychology class at a south-eastern land grant university and found that students who used their cell phones did anticipate lower scores than students who did not, indicating its distracting nature for learning. This updated descriptive evidence on students' beliefs and self-reported use of cell phones. Moreover, students who used their cell phones while in lecture would not retain as much information as those who did not was not supported. [10]

Alfawareh and Jusoh (2014) collected surveys of 324 undergraduates' students at Najran University to verify trends in smartphones under two categories: normal usage and usage for learning. It was found that smartphones have been used to replace desktop or mobile computers and further revealed that university students have not fully utilized their smartphones for learning purposes. It acknowledges smartphone's disruptive effects of texting on students learning. [11]

In her qualitative study Jubien. P.(2013) concludes that graduate students combine their personal lives with their student lives influenced by the use of smartphones. This finding can be understood as a statement that students can have a classroom at home or wherever making use of communication and educational applications offered by smartphones. In addition, Jubien. P.(2013) mentions another found finding about how smartphones are influencing and changing educational practices. For example, changes in the way to gather information, to receive instructions from teachers, to do homework, to collaborate with classmates, among others. [12]

In his study Sykes. E.R (2014) found that with a mixed method design that students using a smartphone application enjoyed and performed very well in a course, so they exceeded their performance of a comparison group (traditional course) with statistically significant differences. In addition to this, Sykes. E.R (2014) concluded that, smartphones are a phenomenon that has changed daily life and learning styles of students, has forced changes in teaching strategies for teachers, and has changed the rules and policies of educational institutions since these technological devices have become popular among the

educational community of almost every country around the world. [13]

In an observational study of smartphone usage on the Stanford campus, Ames M.G. (2013) showed that the availability of always-on connectivity meant that the students had to exhibit the techno-social practices of balancing their extended networks with the immediate surroundings and to limit the negative impacts of smartphone usage (e.g., social pressure, and multi-tasking). [15]

2.2 Theoretical Framework

The technology acceptance model (TAM) is one of most widely used models to study usage of (or intention to use) a new technology. The model hypothesizes that perceived usefulness and perceived ease of use determine an individual's intention to use a system, with intention to use commonly serving as a proxy for actual system use. Following the original TAM, additional research was conducted to improve the validity of the instrument proposed by Davis (1989). After TAM had been used in a variety of settings and samples, a meta-analysis reported that the scales for perceived usefulness and perceived ease of use were reliable and valid and could be extended over different populations of users and software choices. TAM was originally used to measure the intention to use technology which had not yet been adopted by its users. However, other studies have shown that TAM can also be used in a post-adoption scenario. Moreover, TAM and the usage intention in a post-adoption scenario have already been studied and validated in the blogging environment. For example, Hsu and Lin (2008) used the TRA and TAM to understand the factors that contribute to blog usage. The results showed that ease of use and perceived enjoyment appear to be important variables in the context of blogs. Moreover, of the knowledge sharing factors, reputation was found to have a significant impact on the user's attitude towards blogs. This model is significant in this study as smartphones and internet are relatively new technology in Africa in general and Cameroon in particular as perceived usefulness and perceived ease of use determines an individual's intention to use it.

3.0 Methodology

This study is qualitative and its nature is exploratory. Methods of data collection included semi structured interviews and focus group discussions. The participants for the study included thirty students from selected departments of the University of Bamenda. Students were randomly targeted in the campus and

then invited to participate in the study. Stratified sampling was done to obtain thirty participants who owned and used a mobile phone. Ideally, the strata groups were meant to ensure that there is equal representation of males and females, and the various departments and schools. One focus group discussion was held with ten participants, and the remaining ten participants were invited to participate in semi-structured interviews. Both the focus groups and semi-structured interviews were audio recorded and latter transcribed. Questions asked during interviews investigated issues around mobile phone adoption, factors that influence them to adopt the devices, their interactive relationship with the devices as well as their consumption of the devices.

4.0 Findings and Discussions

The study reveals that there are primarily two types of mobile phone adoption among University of Bamenda students: initial adoption and continuous adoption. During initial adoption, students are normally enthusiastic about the consumption of the mobile phone, such as its basic function. Factors such as the need for connectedness and income play a significant role in determining mobile phone adoption at this stage. Continuous mobile phone adoption involves users acquiring more than one handset or replacing a damaged, old or stolen handset with a newer or advanced one. Often, this is dependent upon the new ways in which the user perceives or makes sense of the functionality of the device. At this stage, the factors such as social influence and perceived usefulness of the device play a significant role in motivating the students to continuously adopt a mobile phone.

4.1 The need for connectedness as an integral motive for mobile phone adoption

The students indicated that overall, the need for connectedness was the integral motive that influenced mobile phone adoption in their lives. Clearly, among the students, a specific driver for the uptake of mobile phones was grounded in their local cultural customs related to connectedness among families, relatives and associates. In this regard, the specific examples of connectedness which were mentioned by the students in the study were as follows: students connecting with their family and relatives for social and financial support and with their classmates in the university and other universities for assistance on issues that pertain to studying.

4.2 Social influence and perceived usefulness of mobile phones as motivating factors during mobile phone adoption

During the study, twelve student participants in the study admitted to swapping simple and cheaper mobile phones that they had initially bought when they received their first stipend to a more advanced handset. According to the participants, when they saw other people with smart phone handsets with digital cameras and advanced features for playing music, their attitude towards basic mobile phone handsets changed, since they now started to envy advanced handsets. Although the participants lamented that swapping a basic brand for a smart phone was costly, it appeared that at this stage the social influence of others surpassed the cost of acquiring the latest handset or a smart phone device. For instance a third year student of the Department of Biology had a Samsung Galaxy S5. It cost 200.000 frs, almost the price of a laptop computer. He managed to buy this phone after saving for about seven months from his allowance. He admitted that before he bought this phone, he admired a similar smartphone that his uncle, who has a high paying job, used.

4.3 Costs and Funding

More than half of the students (60%) indicated that they paid for their own cellphone expense, with their parents paying 32% of the bills and siblings paying 4% of the bills. However, when asked where the money for paying phone expenses comes from, 46% said from their Parents, 28% from their own work (part-time, weekends or as interns) and 14% from their own income and parents. The Average monthly cellphone expenditure was FCFA 7000. On average, students spent about 25% of their monthly income on their cellphone bills. Monthly cellphone expenditure is a big concern for students, considering that they are spending on average 25% of their disposable allowances on cellphone bill

4.4 Online time, phone calls and SMS

Most of the students would start their day with their phones especially on Social Networking sites when they wake up, or between 07H00 and 08H00 in the morning, and continue with Social networking till about 24H00 at night or when they go to sleep. Some students start at 06H00, and finish at 02H00 the next day. This translates to an average of 16 hours with a maximum of 22 hours of mobile phone use. The study showed that the students made about 6 phone calls per day, and received about 7. The average time spent per phone call was about 4 minutes. Students sent on average about 10 sms' and received on average 15 sms' per day. The preference for communications medium (chat over calls and sms) can possibly be explained because of the high costs of phone calls in Cameroon.

On average, students had about 45 mobile social interactions, per day. A few students indicated 1200 interactions per day, and it is not understood why they responded this way. The survey also showed that students spent an average of five (5) hours per day with social networking apps, with about 4 hours on messaging Apps such as WhatsApp, Imo, Facebook, and Hotmail. Students indicated that they communicated mostly in groups and one-on-one conversations. On average students will interact with about 16 people on a daily basis, with the maximum being 65. The average number of social networking friends respondents indicated were 381, with the most being 1560, and the minimum 5 friends.

In some cases the amount of time spent on SNS's has negatively affected students studies, with one student acknowledging that she failed her first year exams due to excessive SNS interactions. More than half of the students are also not shy to acknowledge that they use their mobile phones for responding to messages in class, with 60% of the students being of the opinion that they use their phones "all the time", more than 70% acknowledging that they check their messages frequently.

Among the interviewed students on browsing frequency, the respondents indicated that they browse more on social sites than academic purposes. In substantiating the reason for their preference, they indicated that it helps them to cool off during their stay and study in the institution otherwise schooling will be boring for them without connecting to their friends and loved ones.

5. Conclusion

Mobile phones are increasingly one of the most popular information access devices. They have an extensive and continuing effect on how people communicate among themselves and how people conduct their day to day lives. This study indicates that mobile phone adoption among University of Bamenda students is predominantly influenced by factors such as the need for connectedness, cost and perceived usefulness of mobile phone handsets. Moreover, this study reveals that acquisition of mobile phones among students is an ongoing process, as it involves a young person starting to acquire and use a mobile phone (initial adoption), and then developing a strong link with the device through continuous consumption.

References

[1] GSMA (2017) The Mobile Economy: Sub Saharan Africa 2017 viewed on October 20, 2018 on <http://ssa.gsmapobileeconomy.com/>

[2] Laura Haapio-Kirk (2018) The boom of Smartphones and social media in Cameroon viewed on <https://blogs.ucl.ac.uk/assa>

[3] International Telecommunication Union (ITU) (2017). World Telecommunication Indicators Database . Geneva: International Telecommunications Union.

[4] Statista (2017). The statistics portal. Retrieved from: <https://www.statista.com/outlook/243/106/ecommerce/africa-middle-east#>

[5] Motorola (2006). *Towards the next billion subscribers: Motorola delivers on seamless mobility vision*. Retrieved April from

http://www.motorola.com/mediacenter/news/detail/0,,6405_6355_23,00.html#fn1

[6] Issac, H., Nickerson, R.C., & Tarasewich, P., (2004). Cell phone use in social setting: preliminary result from a study in the United State and France, Decision Science Institute, 4791-4796.

[7] Palen, L., Salzman, M., & Youngs, E. (2000). Going wireless: behavior & practice of new mobile phone users.

[8] Froese, A. D., Carpenter, C. N., Inman, D. A., Schooley, J. R., Barnes, R. B., Brecht, P. W., & Chacon, J. D. (2012). Effects of classroom cell phone use on expected and actual learning. *College Student Journal*. 46(2). 323-332. Retrieved from: <http://web.a.ebscohost.com/ehost/pdfviewer?vid=5&sid=c47a113c-266f-4e8a-9da8-4c55fc6c2d2f%40sessionmgr4001&hid=4106>

[9] Tindell, D. R., & Bohlander, R. W. (2012). The use and abuse of cell phones and text messaging in the classroom: A survey of college students. *College Teaching*. 60(1). 1-9. Retrieved from <http://www.tandfonline.com>

[10] Elder, A.D. (2013). College students' cell phone use, beliefs, and effects on their learning. *College Student Journal*, 47(4). 585-592. Retrieved from: <http://web.b.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=27&sid=a3638b70-b6d0-4808-8f815018d1658798%40sessionmgr115&hid=10>

[11] Alfawareh, H.M., and Jusoh, S. (2014). Smartphones usage among university students: Najran University case. *International Journal of Academic Research*, 6(2). 321-326. doi: 0.7813/2075-4124.2014/6-2/B.48

[12] Jubien, P. (2013) "Shape Shifting Smart Phones: Riding the Waves in Education," *Canadian Journal of Learning and Technology*, vol. 39, p. n2.

[12] Sykes, E.R (2014) "New Methods of Mobile Computing: From Smartphones to Smart Education," *TechTrends*, vol. 58, pp. 26-37, 2014.

[12] Ames, M (2013) "Managing mobile multitasking: the culture of iPhones on stanford campus," in *Proceedings of the 2013 conference on Computer supported cooperative work*, 2013, pp. 1487-1498.